

ABSTRACT

An air bag puncture device extends from the torso of a vehicle occupant and has a pointed outer end. Upon inflation of an air bag against the torso of the occupant, the device punctures the air bag to soften the outer surface of the air bag and thereby prevent injury to the occupant. The puncture device is mounted on a resilient clip for removable mounting to the shoulder harness of a vehicle seat belt system and comprises a cylindrical cutting device having a serrated outer end opposite the resilient clip for puncturing the inflating air bag. A hollow cylindrical collar is slidably mounted on the cylindrical cutting device and normally extends beyond the serrated outer end of the cutting device to prevent unwanted injury to the vehicle occupants. However, upon inflation of the air bag, the bag pushes the hollow cylindrical collar along the cutting device, against the resistance of a coil spring disposed between the hollow cylindrical collar and the resilient clip, until the serrated outer end of the cutting device protrudes from the cylindrical collar and punctures the air bag so as provide a controlled amount of deflation of the air bag. The coil spring defines a predetermined amount of force by the inflating bag which is necessary before the bag is punctured. As the bag is punctured, escaping gas therefrom is vented through the hollow interior of the cutting device and out through a venting slot in the cutting device and a vent hole in the cylindrical collar.